I claim:

1. In a method of forming protuberances capable of being connected to at least one electronic device, the protuberances being formed on a conductive pattern of an insulating substrate, the improvement comprising:

forming the metal protuberances by depositing a metal on areas of the substrate that contain metallic sites; melting the metal into convex protuberances on the sites, the protuberances being capable of being bonded the device.

2. In a method according to claim 1 wherein the metal is deposited on areas that include the metallic sites and contiguous areas, and upon melting the metal draws back from the contiguous areas onto the metallic sites.

3. In a method according to claim 1, wherein the metal being melted to form protuberances is capable of being metallurgically bonded to the device.

4. In a method according to claim 1, wherein the metal being melted to form protuberances is capable of being adhesively bonded to the device with an organic adhesive.

5. In a method according to claim 1, wherein the protuberances are formed of a metal selected from the group consisting of aluminum, copper, gold, indium, lead, silver, tin and alloys comprising these metals.

6. In a method according to claim 3 wherein the protuberances comprise aluminum.

7. In a method according to claim 3 wherein the protuberances comprise a metal selected from the group consisting of copper, gold and alloys comprising these metals.

8. In a method according to claim 7, wherein a powdered metal is deposited on areas of the substrate that contain metallic sites.

9. In a method according to claim 8, wherein the powdered metal is deposited by screen printing a metal paste over the metallic sites.

10. In a method for making a connection to the contacts of an electronic device comprising:

providing an insulating base having a conductive pattern, the conductive pattern having contact areas wettable by a molten metal;

depositing the metal over the contact areas;

melting the metal, the molten metal forming protuberances on the contact areas, the protuberances being capable being bonded to the contact of the device.

11. The method of claim 10 wherein the metal is deposited over the wettable contact areas includes some metal deposited on non-wettable areas contiguous to the wettable area, and upon melting the metal, the molten metal draws back from the non-wettable areas to the wettable contact areas to form the protuberances.

12. In a method according to claim 10, wherein the metal being melted to form protuberances is capable of being metallurgically bonded to the device.

13. In a method according to claim 12, wherein the protuberances are welded to the contacts of the device.

14. In a method according to claim 10, wherein the metal being melted to form protuberances is capable of being adhesively bonded to the device with an organic adhesive.

15. In a method according to claim 10, wherein the protuberances are formed of a metal selected from the group consisting of aluminum, copper, gold, indium, lead, silver, tin and alloys comprising these metals.

16. In a method according to claim 15, wherein the protuberances comprise a metal selected from the group consisting of copper, gold and alloys comprising these metals.

17. In a method according to claim 16, wherein a powdered metal is deposited on the contact areas of the insulating base.

18. In a method according to claim 17, wherein the powdered metal is deposited by screen printing a metal paste over the metallic sites.

19. In a method of manufacturing a package suitable for packaging at least one semiconductor device, the package comprising a ring frame which is bonded to a cover and to an insulating substrate having a conductive pattern, the conductive pattern having contact pads for connecting to the semiconductor device and connections suitable for connecting the package to an another assembly; the semiconductor device being mounted on the inside of the cover and the input/out pads (I/O's) of the semiconductor device being joined to the contact pads of the substrate, by metal protuberances protruding from the contact pads of the substrate; the improvement in the method comprising:

forming the protuberances by applying a first metal over the contact pads of the conductive pattern of the substrate and then raising the temperature of substrate melting the metal, the molten metal drawing back into protuberances on the contact pads, and then cooling the substrate.

20. In the method of claim 19, wherein the insulating substrate is a ceramic having a refractory metal conductive pattern the improvement comprising forming the protuberances of a metal selected from the group consisting of aluminum, copper, gold, indium, lead, silver, tin and alloys comprising these metals.

21. In a method according to claim 20, wherein the metal is selected from the group consisting of copper, gold and alloys comprising these metals and the metal is applied to the conductive pattern as powdered metal.

22. In a method according to claim 21, wherein the powdered metal is deposited by screen printing a metal paste covering and overlapping the contact pads.

23. In a method according to claim 21 wherein the powdered metal is deposited by screen printing a metal paste on the contact pads.

24. In the method of claim 19 wherein the connections suitable to connecting the package also comprise external of metallic sites of the conductive pattern, the further improvement comprising applying a second metal to said metallic sites, and when raising the temperature of the substrate, the second metal melting and drawing back into protuberances on the metallic sites.

25. The method of claim 24 wherein first and second metals have the same composition.

26. The method of claim 24 wherein the first metal is selected from the group consisting of gold and copper and alloys comprising these metals.

27. The method of claim 26 wherein the second metal is selected from the group consisting of copper and copper alloys.

28. In a method for producing a package for an electronic device, the package having as its base a high temperature insulating substrate, the base having metal protuberances on a first

surface and a contact pad array on a second surface, the metal protuberances and contact pad array being connected to and part of the conductive pattern of the base, the metal protuberances being suitable for flip-connection mounting of one or more electronic components onto the base, the improved method comprising:

depositing a first metal suitable for flip-connection bonding to electronic components on the first surface of the base;

depositing a second metal suitable for forming connections on the contact pad array on the second surface of the base, and

heating the base above the melting points of the first and second metals to form metal protuberances suitable for flip-connection bonding on the first surface, and metal bumps suitable for connection to another package on the second surface.

29. In the method of claim 28, wherein the first metal deposited on the first surface is selected from the group consisting of aluminum, gold, indium, lead, silver, tin and alloys comprising those metals

30. In the method of claim 29, wherein the first metal deposited on the first surface is selected from the group consisting of aluminum, gold and alloys comprising those metals